STATISTICAL BULLETIN

Metropolitan Life Insurance Co.

VOL. I. AUGUST. 1920. No. 8.

FAVORABLE HEALTH PROSPECT FOR 1920.

The first half of 1920 shows the best health record for this part of the year in the history of the Company. The death rate, 11.5 per 1,000 Industrial policy-holders, maintains the remarkably low experience of the last half of 1919. The country has enjoyed a condition of unexampled good health for the period of a year, except for the months of the influenza outbreak in February and March. Barring unforeseen disturbances in the fall and winter, 1920 should prove to be the best year in the sanitary history of the United States. The accumulated efforts for better public health are bringing results.

The improvement is noted very generally throughout the country. It is equally evident among white and colored people. This desirable condition has been attained through a decline in the death rate for tuberculosis, influenza and pneumonia, and the accidents. The most significant fact in the record of this year is the drop in the tuberculosis death rate, which among insured wage earners is now approaching that found in the general population. This is a remarkable achievement in view of the uniformly higher rates for tuberculosis which have prevailed among those engaged in industry.

There are, however, a few, but important, conditions which present unfavorable features as compared with the record of last year. Thus, the infectious diseases of children, including measles, scarlet fever, whooping cough, and diphtheria, show higher rates in each instance than during the first half of 1919. The mortality was almost three times as high for measles and over twice as high for whooping cough. The conditions incidental to child-bearing increased almost 12 per cent. over the rate for the first half of 1919. Puerperal septicemia appears to be largely responsible for this. The slightly higher birth rate of 1920 may play a part in the increase; but, there are undoubtedly other and more important factors. The movement for the better care of women in childbirth should be advanced in every possible way to control this loss of valuable lives.

The automobile accident situation, as an element in mortality, becomes more pronounced from month to month, and offsets the

gains that are being accomplished from the control of other conditions. In April, the automobile accident death rate was 8.1 deaths for every 100,000; in May, the rate reached 9.0; in June, the figure was 12.4 per 100,000. In July, as is shown in the table on page 7, the rate rose to 13.5 per 100,000. This rate is higher than that for ten other important causes shown in the table for July.

Low as are the figures for the first half of this year, reflection will show that there is still much room for improvement. Many lives can be saved from the infectious diseases of childhood, from maternal mortality, and from the accidents. The limits of life conservation are still far from having been reached.

The table on page 3 presents a detailed statement of the death rates from the principal diseases during the first half of 1920, 1919 and 1918.

MEDICAL SERVICE IN INDUSTRY.

Production in industry depends in large measure upon the health of the workers. Health and efficiency are inseparable. This thought has lead progressive employers all over the country to establish medical departments in their plants. The purpose has been to conserve their man power. They hope, through this means, to decrease sickness and absenteeism, check the labor turnover and the amount of poor and spoiled work. If they have succeeded, their efforts have undoubtedly proved a good business move.

Industrial medical service benefits the plant at many points. It begins with the physical examination and selection of the applicant. It places the man at the job which is best suited to his physical condition. In many instances, it prevents the breakdown of employees who might otherwise be overtaxed. The medical service will also arrange for the periodic examination of the personnel. It will thus discover impairments at the earliest stages. Such impairments can often be remedied through follow-up work and serious illness and even death, prevented.

Industrial medical service nearly always results in better plant sanitation. Questions of ventilation, hours of labor in relation to fatigue and efficiency, the suppression of communicable diseases among the workers, all come within the purview of the plant physician. Medical service prevents infections which so often follow uncared-for injuries. Minor injuries are the most frequent and, because of the desire of the workman to continue on his job, are often neglected. Where there is a medical department, all injuries are much more likely to receive immediate attention and later infection avoided. Finally, the physician will minister to the many ailments which arise among the staff during the working day and save many absences

Death Rates per 100,000 Persons Exposed. First six months of 1918, 1919 and 1920 Compared. By Color, for Principal Causes of Death. Metropolitan Life Insurance Company. Industrial Department.

Cause of Death	White			Colored		
	Jan.-June 1920	Jan.-June 1919	Jan.-June 1918	Jan.-June 1920	Jan.-June 1919	Jan.-June 1918
All Causes of Death	1082.3	1208.2	1101.6	1697.4	1799.4	1947.3
Typhoid fever	4.2	4.4	6.3	7.8	11.0	16.7
Measles	14.3	4.9	14.6	5.4	3.1	9.7
Scarlet fever	7.9	4.8	5.7	.5	.4	1.0
Whooping cough	7.7	3.3	9.5	9.5	2.1	16.6
Diphtheria and croup	24.4	20.9	20.8	6.1	6.4	8.1
Influenza	93.2	177.0	15.9	145.4	217.3	42.8
Tuberculosis (all forms)	132.6	150.1	174.9	310.6	329.6	422.6
Tuberculosis of the lungs	119.6	136.2	157.5	285.0	300.9	383.8
Tuberculous meningitis	6.5	6.9	9.7	6.6	10.6	10.7
Other forms of tuberculosis	6.6	7.0	7.6	19.0	18.0	28.1
Meningitis—total	6.7	8.3	10.6	9.2	6.2	10.6
Cerebrospinal meningitis	5.6	6.7	6.4	7.6	5.7	6.7
Cerebral hemorrhage; apoplex	62.7	58.7	63.4	91.3	93.4	95.3
Organic diseases of heart	126.6	121.0	136.6	187.3	184.4	221.6
Total respiratory diseases	181.4	201.4	173.9	290.4	312.9	368.4
Bronchitis	11.4	10.7	11.7	14.2	13.3	19.2
Bronchopneumonia	53.2	53.6	40.0	61.5	64.3	61.8
Pneumonia-lobar and undefined	104.4	127.0	111.2	198.1	219.5	268.7
Other diseases of respiratory system	12.5	10.1	11.0	15.3	15.8	18.7
Diarrhea and enteritis	10.4	10.8	14.6	10.2	15.2	16.6
Under 2 years	4.5	5.0	6.8	3.5	3.8	5.2
2 years and over	5.9	5.8	7.8	6.7	11.5	11.3
Nephritis and Bright's disease	79.1	80.0	92.4	136.1	138.0	174.9
Total puerperal state	25.4	23.2	18.6	33.3	25.9	29.7
Puerperal septicemia	8.1	6.5	8.0	13.3	11.0	12.7
Puerperal albuminuria and convulsions	4.6	4.8	4.5	6.9	4.5	7.5
Other diseases of puerperal state	12.7	11.8	6.1	13.1	10.3	9.5
Total external causes*	61.2	101.6	89.8	84.7	113.5	119.4
Suicides	6.0	7.8	7.1	4.0	4.9	5.5
Homicides	3.0	3.7	3.3	19.7	29.6	24.2
Accidental and unspecified violence‡	51.5	59.2	68.9	60.6	65.0	87.4
Accidental drowning	4.1	†	†	5.2	†	†
Automobile accidents	7.9	†	†	4.3	†	†
War deaths	.7	30.9	10.5	.4	14.0	2.2
All other and ill-defined causes of death	244.5	237.7	254.0	369.6	339.8	393.3

* Includes "war deaths."
† Data unavailable.
‡ Excludes "war deaths."

of a day or more spent in consulting physicians outside the plant. In some plants, the physicians also visit the sick employees at their homes. In addition to treating them, they may gather important information relative to the hygiene and sanitation of the families of the workers. A definite foundation for an intelligent campaign toward better community health is thus often laid.

The above are the direct benefits which follow from the employment of qualified physicians and nurses in industrial establishments. Many other indirect benefits further justify the effort and cost of this activity. Where there is a well balanced programme of medical, surgical and sanitary care, employees appreciate the service and respond in kind. A healthy *esprit de corps* is developed within the plant which reacts favorably upon production. Industrial discontent and strikes are rare where the employer has met his obligation to preserve the health of his staff in a constructive and generous spirit.

The cost of medical service in industry is slight in comparison with its demonstrated value. A survey of a large number of industrial plants with close to two and one half million employees shows that the average cost per employee was only $2.50 per annum. This sum will increase as the several functions of the medical department are extended and intensified. At the present, there are more than 900 establishments employing 1,500 part-time or full-time physicians. There are other establishments with their regular staff of industrial nurses. The movement for industrial medical service is well launched. Its success is already demonstrated. We may look to its continued growth as an important feature in the life conservation movement.

TUBERCULOSIS MORTALITY VERY LOW.

Pulmonary tuberculosis, during the six months January to June, 1920, had the lowest death rate ever recorded for insured wage earners. The mortality from pulmonary tuberculosis among white persons was 12 per cent. less than in the same months of 1919, and 24 per cent. less than for the corresponding period in 1918. Colored persons showed a decline of 5.3 per cent. from their rate prevailing in the first half of 1919, and of 26 per cent. from the rate of January to June, 1918.

The greatest reduction occurred at the ages 25 to 44 years, when the death rate is ordinarily highest. In the age period 25 to 34, the decline among white persons was 16 per cent. and between 35 and 44 years, 24.4 per cent. Important social and economic results follow from this decline. A death prevented at these ages often means a breadwinner or a mother saved to a family. Lower tuberculosis mortality means not only lives saved but family ties conserved and dependency prevented.

A satisfactory explanation of the low death rate is not at this moment possible. We would suggest, however, that the improved economic condition of wage earners in recent years has probably played an important part in the change. The greater leisure, the better food, and the improved medical service which have been available in larger measure to the body of American and Canadian workers have undoubtedly had a favorable effect on health. The military service and training of the millions of young men who served in the United States and allied armies in recent years may have been a factor. The educational campaign for personal hygiene, with especial reference to the prevention of tuberculosis, which has been carried on for more than twenty years, must also be considered. The efforts of the tuberculosis movement to insure early recognition of incipient cases and the efficient treatment of the same may have had an important effect. The influenza epidemic of 1918 probably hastened the deaths of a great many advanced cases who would ordinarily have died in 1919 and 1920. But, of all these elements, we are inclined to stress most the greater diffusion of prosperity among the masses of the population.

CENSUS OF THE UNITED STATES, 1920.

The population of Continental United States according to a preliminary statement by the Federal Census officials was, on January 1, 1920, about 105 million. The returns of 1910 showed a population close to 92 million. There was, therefore, an increase of a little over 13 million, or 14.1 per cent., in the period of nine and three quarter years. The increase in the 1900-1910 decade was 21.0 per cent.

The growth of the country shown in the 1920 census is largely the result of the excess of births over deaths. The increase from immigration during the decade played only a minor part. The official sources indicate that the country increased a total of 3,750,000 from excess of immigration over emigration. This accounts for 29 per cent. of the total growth in the decade. The remainder, or 71 per cent. of the 13,000,000 increase, must represent the excess of births over deaths. This corresponds to a total of close to 9,250,000 over a period of $9\frac{3}{4}$ years. The country's population has, therefore, increased at the rate of slightly over 1 per cent. per annum during this decade, which is consistent with our knowledge of the birth rate and death rate of the country during this period. The birth rate has averaged about 25 per 1,000 and the death rate about 15. The difference is, therefore, 10 per 1,000 or 1 per cent. per annum.

Several factors have played a part in reducing the rate of increase in the population of 1920 over that of the previous census. Of first importance is the decline in immigration since the beginning of the

war in 1914. But the large number of deaths from influenza and pneumonia in the last two years has also had its influence.

MORTALITY RECORD OF JULY, 1920.

The death rate during July was exceedingly low even for this season of the year. The rate, 8.2 per 1,000, represents a decline of 15 per cent. from the figure for June. The mortality conditions now prevailing are close to the best on record in the history of the Industrial Department of the Company.

The death rates for the principal diseases shown in the table on page 7, are lower than for June, with only a few minor exceptions. The rate for the diarrheal diseases rose 35 per cent. during the month, but deaths from these conditions always reach a maximum in the summer. The situation is, therefore, not alarming. The mortality from the diseases of the puerperal state remains high despite a slight decline during the month. The improved conditions which have been in evidence during the last few years are not shown in our figures during the first seven months of 1920. A total of 207 women died from conditions incidental to maternity during the month of July. No less than 145 Industrial policy-holders of this Company lost their lives from automobile accidents during the month.

The health condition of the general population of the country, as indicated by the death rates of the large cities, is altogether favorable. The infectious diseases of childhood are no longer giving concern to the authorities. Influenza and pneumonia have reached their minimum as causes of death. Tuberculosis is less prevalent in many cities, as is indicated by the lower death rate and by the fewer applications for hospital and sanatorium care. The typhoid fever death rate stays low. The disease is being especially guarded against in a number of States. In Michigan, for example, a laboratory on wheels is making a round of summer resorts to examine milk and water. In Maine, health inspectors are certifying hotels where health requirements are met. There is evidence, however, of an increase in the prevalence of smallpox. Large numbers of cases of this disease have been reported over a wide area of the country. Enforcement of vaccination is becoming more and more lax, probably as the result of organized propaganda. A number of cases of typhus fever have been reported from New York City, all having appeared on vessels entering the harbor from foreign ports. New York City has appropriated $80,000 to fight the importation of epidemic diseases.

The problem of infant and maternal welfare is being attacked very generally throughout the country. In Illinois, for example, "better baby contests" are being arranged for at State fairs and children are carefully examined. In Massachusetts, a commission

has been appointed to study infant and maternal welfare and a constructive report will be made to the legislature in November of this year. Dr. Williams of Johns Hopkins Medical School has reported that a marked reduction in early infant mortality can be accomplished through prenatal work and especially from the early diagnosis of syphilis in the mother and from intensive anti-syphilitic treatment during pregnancy. The work of the Maternity Center Association of New York City indicates that the nursing care of pregnant women results in a very marked reduction in the early infant mortality and minimizes the risks of childbirth.

METROPOLITAN LIFE INSURANCE COMPANY

Death Rates per 100,000 for Principal Causes, Premium-paying Business in Industrial Department.

MONTHS OF JUNE AND JULY, 1920.

CAUSE OF DEATH	RATE PER 100,000 LIVES EXPOSED		
	July, 1920	June, 1920	Year 1919
TOTAL—ALL CAUSES	815.5	959.0	1.063.0
Typhoid fever	5.6	5.2	7.3
Measles	7.5	12.7	3.5
Scarlet fever	2.7	5.9	3.9
Whooping cough	4.8	6.9	3.2
Diphtheria	12.4	16.7	20.9
Influenza	8.2	15.7	96.9
Tuberculosis (all forms)	132.5	154.3	156.5
Cancer	67.8	73.8	67.0
Meningitis (all forms)	5.7	7.0	6.4
Cerebral hemorrhage	48.3	61.5	59.8
Organic diseases of heart	100.7	116.8	113.9
Pneumonia (all forms)	34.0	72.3	117.2
Other respiratory diseases	11.4	16.4	17.0
Diarrhea and enteritis	18.0	13.3	16.9
Bright's disease	63.7	71.8	73.5
Puerperal state	19.3	21.2	20.0
Suicides	6.1	7.5	6.8
Homicides	5.3	6.2	6.9
Other external causes (excluding suicides and homicides)	72.9	60.6	80.4
Traumatism by automobile	13.5	12.4	10.7
War deaths	*	*	16.6
All other causes	188.9	213.2	184.9

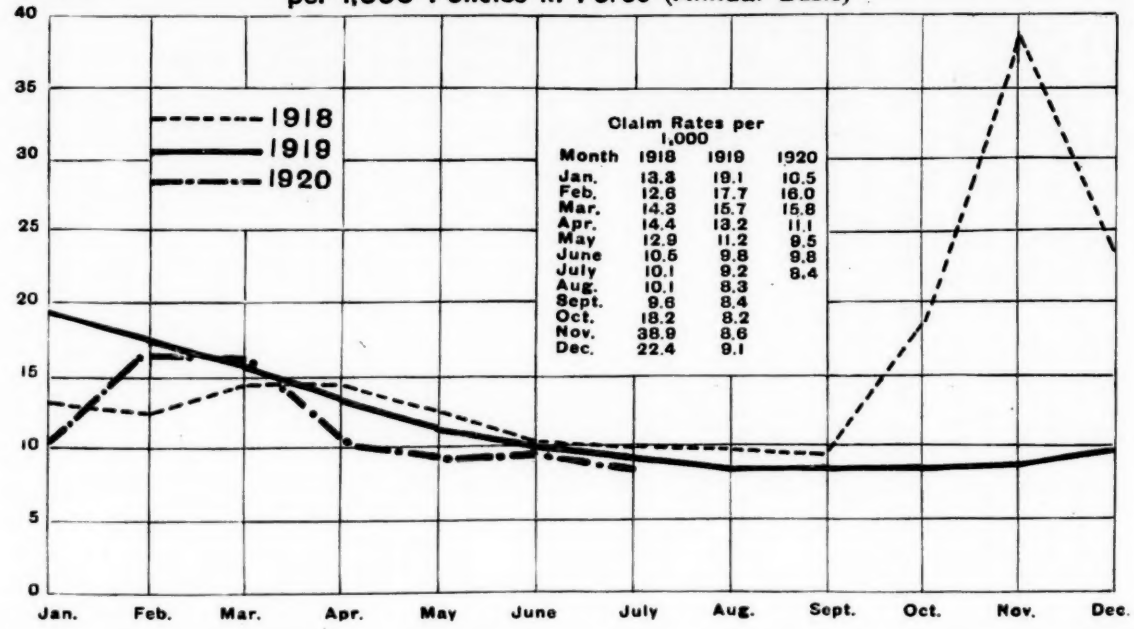
*Less than .05 per 100,000

Correspondence on the subjects discussed in these BULLETINS may be addressed to the editor:

Dr. LOUIS I. DUBLIN, *Statistician*,
Metropolitan Life Insurance Company,
1 Madison Avenue, New York City.

Metropolitan Life Insurance Company—Industrial Department

Claims Paid During Specified Months of 1918, 1919 and 1920, per 1,000 Policies in Force (Annual Basis)



Claim Rates per 1,000

Month	1918	1919	1920
Jan.	13.8	19.1	10.5
Feb.	12.6	17.7	16.0
Mar.	14.3	15.7	15.8
Apr.	14.4	13.2	11.1
May	12.9	11.2	9.5
June	10.5	9.8	9.8
July	10.1	9.2	8.4
Aug.	10.1	8.3	
Sept.	9.6	8.4	
Oct.	18.2	8.2	
Nov.	38.9	8.6	
Dec.	22.4	9.1	

S798